Seguin (E. C.)

IMPORTANCE

OF THE

EARLY RECOGNITION OF EPILEPSY.

AN ESSAY READ BEFORE THE CONNECTICUT STATE MEDICAL SOCIETY, MAY 26, 1881.

BY

E. C. SEGUIN, M.D.,

HONORARY MEMBER OF THE SOCIETY, ETC.,

NEW YORK.

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IMPORTANCE OF THE EARLY RECOGNITION OF EPILEPSY.

THE paper which I have the honor to submit to the Society is one which treats of an eminently practical subject, handled, I trust, in a practical manner. It is upon the importance of the early diagnosis of epilepsy in its principal forms. This essay is also a logical correlative of the one which I presented to the Medical Society of the State of New York in February of this year, upon the early diagnosis of some organic diseases of the nervous system.*

My attention has for several years been attracted by the fact that most cases of epilepsy were allowed to go on for months or years, perhaps passing the stage of curability, without a correct diagnosis and proper treatment. The mistakes of this sort which come under the observation of specialists are very numerous, and many of them have been committed by leading members of our profession. I shall present a number of histories of cases illustrating these errors of diagnosis, and I would earnestly request my readers to bear in mind that I cite these mistakes only for the purpose of instruction, and not at all with the idea of fault-finding, or of exalting my own diagnostic acumen. Several of the physicians referred to anonymously in the following pages are gentlemen who are really eminent as teachers and practitioners, and at whose feet I would be glad to sit. Their errors were not due to carelessness or ignorance, but to a too ready acceptance of medical laws which pass current, yet are wrong.

The subject in hand is really a very complicated

* *Vide* THE MEDICAL RECORD, February 26, 1881.

one, and I cannot pretend, in a paper whose length is limited, to enter into full details concerning the diagnosis of all the forms of epilepsy, and of the various symptom-groups which may be mistaken for it. To do this would involve a prolonged and minute discussion of many mooted points.

All I can do is to show that in most cases even the first attacks of epilepsy, of grand-mal and of petit-mal, can be recognized as epileptic.

I shall first relate cases in which the grand-mal or regular spasmodic attacks were allowed to go on without proper treatment for want of a correct diagnosis, and offer some comments on each case.

Case I.—Female child, aged eleven years, seen May, 1881. Was always a bad sleeper, of a restless disposition, and irritable. Was easily made to turn pale under excitement. Nights disturbed by talking, crying, and even by nightmare. Five years ago the family physician regulated child's diet and instituted some simple treatment; since which attacks of pavor have been infrequent—very rare during the past winter. Never had chorea. Indigestion has been a prominent feature in the child's life; she was fond of sweets. The urine was often found laden with oxalate of lime, and once, last summer, a trace of albumen was discovered.

As regards any tendency to epilepsy, it appears that the child's mother is very nervous, and that one of her brothers was epileptic from childhood, in consequence of a fall (?).

In June of last year the patient travelled about somewhat, alone with her father, without the supervision of mother or nurse. Was probably a great deal exposed to the sun. On or about June 20th, in the early evening, while out on the grass, fell in a severe convulsion. Seemed in poor health afterward, and the family physician, considering the attack as caused by indigestion, or at any rate as symptomatic, prescribed a strict diet and an occasional dose of calomel.

On September 29th, in the cars, returning home from the country, was excited and overheated. After arriving at the house had her second attack,

characterized by loss of consciousness, universal spasm, frothing at the mouth. Did not bite tongue, and was not inclined to sleep after fit. Traces of albumen in urine. Treatment was still directed to the disordered state of the digestive apparatus as a cause of the epileptiform attacks.

A week later, October 6th, after some excitement, in presence of her mother, suddenly fell in a convulsion, lighter than the previous ones.

After this a moderate bromide treatment was added to the management of the case, and no attack occurred until April 25, 1881.

The bromides, though given judiciously and by a very skilful hand, produced irritability and other disagreeable symptoms, which led the child's mother to cease giving them some time in January.

An attack on April 25th was characteristic, but slight, and followed by sleep. After it urine found laden with oxalate of lime.

May 2d, while the child was being prepared for bed, she felt some warning sensation (not a definite one); rushed, nearly undressed, to her mother, stood speechless before her, and was slightly convulsed in the throat.

A sixth and last attack occurred in the evening of May 8th. Sat in a spasm, foamed at the mouth; was rigid one instant, and then had clonic spasms of extremities; face not convulsed (?); pupils not observed.

There have been no "dizzy spells" or petit-mal.

It is needless to add that I advised a resumption of the bromide treatment in this typical case of epilepsy, with special precautions against severe bromic symptoms.

This case is peculiarly instructive, because the physician who treated it as one of lithæmia and oxaluria, with symptomatic convulsions, is an unusually intelligent practitioner and a gentleman of high standing in the profession. His judgment was warped by the currently accepted notions of the frequency of eclampsia.

Case II.—Mrs. C. S., aged thirty-four years, seen March, 1879. Former health good. During 1876–77

she had had much malarial fever, irregular chills, and attacks of fever.

In April, 1878, after having been confined to the house by an attack of fever, she had a first convulsion. This occurred in sleep, after dinner, at about two o'clock P.M. It was a full convulsive seizure, in which she bit her tongue, fell heavily from the lounge on which she was lying, and hurt her face.

A second attack recurred on the night of August 2d. She groaned, was convulsed, frothed at the mouth, and bit her tongue.

A third attack of grand-mal occurred in the night of January 1–2, 1879. This was less severe, but she bit her tongue.

Has had few attacks of petit-mal, consisting in momentary confusion.

The significance of the first attack was ignored in this case, and a bromide treatment was not begun until after the second seizure. Since then has had bromide irregularly, at times too little, sometimes none at all, and occasionally too much.

Etiology obscure. Owing to patient's age and the absence of any inherited tendency, I inquired particularly as to symptoms of syphilis, with negative result. Frequent examinations of the urine have shown no sign of renal disease. As regards syphilis, the subsequent course of events, improvement without mercury or iodide of potassium, has justified my conclusion at the time of my examination.

It is sufficient to state, with respect to treatment, that Mrs. S. was put on a careful course of chloral and potassium bromide, which last year was changed to ammonium and potassium bromides. She has never required very much of the anti-epileptic medicines, and at times has had various tonics.

To the present time, May, 1881, a period of twenty-nine months, she has had no attack of either kind, and her general health is excellent. Since the beginning of the year I have made a small reduction in the amount of bromide, and intend to make a further reduction of a few grains every three months. Her present dose of the mixture of ammonium and potas-

sium bromides is .50 (7.5 grains) on rising, and 2.5 (37.5 grains) at bedtime.

If, after exclusion of uræmia and syphilis, the first attack had been diagnosticated as epileptic and treatment instituted, the probability of cure would have been greatly enhanced. The next case is an illustration of this statement.

Case III.—Miss F. O., aged sixteen years, seen May, 1878. A well-developed, healthy girl, menstruating since three years, with little pain. Mother neurasthenic; one brother had an exquisite attack of articular neuromimesis (both ankles). Patient never hysterical.

Yesterday, May —, menses were flowing, when, in order to be able to go with comfort to a dancing-school *soirée*, she used a cold foot-bath and checked the flow. She danced a good deal in the course of the evening, and then took supper. To-day arose late, and seemed languid. At about seven P.M. had a severe fit; gave a cry, lost consciousness, fell heavily; body was rigid and pupils wide open, then had clonic spasm, frothed at the mouth, and bit her tongue; was stupid and sleepy after attack, whose actual duration was not timed. It was witnessed by a very intelligent young gentleman, who gave me the above particulars. I saw the patient at eight o'clock —one hour after the fit. She was conscious, complained of headache, of soreness in body generally, and of her bitten tongue. The pulse was rapid, the axillary temperature was over 37.8° C. (100° F.); the patient's face and neck were covered with numerous minute petechiæ resembling flea-bites; menses had returned.

The seizure was typically epileptic. I anticipated a return of attacks only at the menstrual periods, and consequently instituted a rather peculiar treatment, which was carried out with unusual faithfulness. Bromide of potassium, 1.50 (about gr. xx.), was to be taken night and morning for ten days, including the menstrual period; beginning three or four days before it; and the patient was to be kept in bed or on the lounge for two or three days at the beginning of the flow.

A few days ago (May 14, 1881) I had a note from the patient's mother, stating that her daughter had never had a return of spasm (or any other epileptic manifestation), and that she was still keeping quiet for two days in the menstrual week, and taking bromide of potassium.

This makes an interval of more than three years, and I must say that I consider a return of attacks exceedingly unlikely. Still I have recommended continuing the periodical treatment for six or eight months longer.

CASE IV.—Mr. C. D——, aged twenty-one, seen February, 1877. Patient is a large and well-developed young man, something of an athlete. Former health good, but hygiene bad; used wine and tobacco from twelve to eighteen years, and probably committed sexual excesses. No epilepsy in family; mother subject to migraine; patient not. No dizzy spells. Head not injured.

First attack occurred when he seemed in good health, on Christmas day, 1873. Was sliding down hill, when he lost consciousness and fell off the sled, remained stiff for a few minutes, and was sick at his stomach. From his knowledge of the circumstances and from what he was told, the patient is positive that the fall from the sled was not accidental, but that he first "fainted." In two or three days was well.

Remained perfectly well for ten months, and had a second attack in October, 1874. Was sitting chatting with friends; lost consciousness, became sick at the stomach; did not bite his tongue. Had muscular soreness the next day. In the summer of 1875, after rowing on Lake George, had a third attack, without aura; fell off a dock into the water. Fourth attack in May, 1876, preceded by an undefinable preliminary sensation; attack was again accompanied or followed by vomiting. Fifth attack in October, 1876. This was treated, by Dr. X., as stated in the letter which is appended. Another attack occurred toward the close of 1876, and the seventh (last) seizure was on February 9th of the present year (1877), without warning or vomiting. In the other attacks the warning sensation was quite pro-

longed ; on one occasion was able to walk nearly a quarter of a mile before falling.

He has had no petit-mal, and general health has been unimpaired. Has done well at college.

The following letter was sent to me with the patient, and it well illustrates the erroneous notions which prevail with respect to the significance of a single epileptic fit, or of fits returning at long intervals.

NEW YORK, February 11, 1877.

"———— :

". . . . This will be handed you by Mr. D——, who has been under my care for some time with epilepsy. At first I attributed his attacks to gastro-intestinal causes, and rectified all bad habits of life and regimen. The disease recurred, and then I put him upon a diet exclusively vegetable and interdicted stimulants. He will tell you how he has fared upon this plan. . . ."

It appears that Mr. D—— was first prescribed for by Dr. X., who is a very eminent practitioner and teacher in New York, after the fourth or fifth attack, in 1876, when the disease had been going on two years and more. No bromide of potassium or sodium had been given until within a very short time previous to the consultation.

Though foreign to my present purpose, I might add that a bromide treatment, consisting in giving only a night dose of from 4. to 5. (60 to 70 grains) of bromide of potassium, has greatly improved the patient.

After the consultation some attacks returned, and I find the following record, July 16, 1878 : Mr. D—— returned from Germany a few days ago. He had had no attack since the beginning of August, 1877. Once in Europe had a slight threat of attack, without loss of consciousness. Has led a regular, quiet life, and has taken 4. (60 grains) of potassium bromide every night without omission. General health excellent.

August 4, 1869.—No attack since threat in Germany, twenty months ago. Takes 4. (60 grains) nocte ; ordered reduce to 3.5 (50 grains).

October 19th.—Slight attack after an interval of

twenty-eight months; fell and bit his tongue. Ordered 4. at bedtime.

December 6th.—No attack.

September, 1880.—In August, under excitement, felt faint, but this attack was not sudden, and he preserved his consciousness. It is now nearly one year since last attack. Takes only 2.75 (41 grains) bromide of potassium at night. He reduced without advice.

October 14th.—Slowly developed attack, without local aura; felt confused before losing consciousness; had spasm, but did not bite tongue. Ordered 4. (60 grains).

January 5, 1881.—No attack. Through erroneous weighing of bromide, has taken only 3. (45 grains) every night. Ordered 4. (60 grains).

March 23d.—No attack.

Summary.—Since August, 1877, only two epileptic attacks, and one "threat." This is a period of now (June, 1881) nearly four years.

Has finished the study of law, and is in good physical and mental health.

Case V.—Ira K., aged eight years, seen February, 1877. Was a healthy baby; no convulsions while teething. When two years old fell down a long flight of stairs without apparent injury. Remained well. When four years of age, fell from a horse, cutting the scalp in the occipital region; no loss of consciousness or vomiting.

In six or seven months after this injury, about three and a half years ago, had a first (?) nocturnal epileptic attack. Until lately has had chiefly nocturnal spasms. At first had a few diurnal seizures, and again lately.

Has had much petit-mal, increasing in frequency—of late almost daily. This consists in staring, loss of consciousness, a "hum" or "hem" noise, and sometimes slight jerking of the arms and throwing back of body.

In the last few weeks child has been less bright, and has exhibited a thick articulation.

During long periods of time the child was treated "for worms" and for "disorder of the stomach."

Case VI.—Mary C——, aged sixteen years, seen October, 1879. Born healthy and remained well until sixth year, when, after indulgence in green fruit, she had an attack of very severe convulsions lasting two hours; did not bite her tongue, and there was no consequent paralysis.

This was succeeded by numerous "fainting turns," as the mother calls them. In these the child was unconscious, pale, still, with eyes open and staring. This was petit-mal; the next attack of grand-mal occurred in two years, and afterward the convulsive seizures became frequent, from one or two in one day to one in two or three weeks.

The child had an irregular bromide treatment.

Since has had three types of attack: petit-mal (rarely now), grand-mal, and mixed attacks. One of the last kind was witnessed in my office, and is thus described in the case-book: "Makes complaint of aura, asks for amyl, dilatation of the pupils, pale face, general spasm of semi-tonic kind, muttering, raising of clothes, picking or grasping at chair, incoherent remarks, makes some swallowing movements, does not bite tongue, or froth; return to consciousness."

The aura referred to is almost always felt; it consists in a sensation just above the umbilicus, not ascending, but feeling as of a "soft whirling" or "trembling" sensation in the abdomen; no nausea.

I mention this case because of the apparent etiology. It may have been looked upon as a case of convulsion and vertigo from gastric irritations, and treated accordingly. It certainly appears that a serious bromide treatment was not given during the first two or three years of the disease.

Case VII.—Clara C——, aged five years, seen April, 1880. In February 1879, had a first attack of convulsions, on both sides of the body.

In four weeks experienced a second bilateral attack. In April there recurred an attack in which the spasm was wholly limited to the left side of the body, followed by a number of others, all within a period of twelve hours; no consequent paralysis. In

the month of May passed through another *status epilepticus*, in which some of the spasms were on the left side, others bilateral. The bromide of potassium was then steadily given until June, when the mother suspended its use. Had no treatment and remained free from attacks until February, 1880, when a *status epilepticus* of forty-eight hours' duration occurred; most of the spasms were bilateral, and a few involved only the left arm and leg: never bit her tongue. Early in March several attacks in a group. Paralysis has never been observed after attacks, but the child is cross and has headache after them. Most of the attacks have been nocturnal.

Recently one dizzy spell.

After this consultation, a stricter bromide treatment was attempted, but never faithfully carried out by the mother.

Status epilepticus occurred in June and September, 1880: many attacks limited to left side. After June attacks, she was almost maniacal for one month.

From January 21st to February, 1881 (when last seen), many seizures, most of them of mixed type, some like petit-mal; calling out, with slight shaking of both arms, staring, and pallor of face. Very unmanageable; semi-maniacal at times in last few weeks.

Family neurotic; maternal grandfather subject to violent neuralgias about the head (specific?); mother of child had convulsions from eighth year, for how long a time and of what kind it is impossible to learn.

Careful examinations of the child on two occasions, nearly one year apart, gave no objective symptoms indicating the existence of what one would naturally suspect, viz., a localized lesion (tumor?) in the right hemisphere of the brain.

For many months the physician in charge of the child, and the consulting physician, a man of great eminence, ignored the truly epileptic nature of the child's attacks, asserted their curability, and treated the child carefully for worms and for disorder of the digestive organs.

Case VIII.—Jas. W——, aged twenty-one years, seen October, 1878. Health has been good; denies

masturbation, sexual excess, and syphilis. Married fifteen months ago, and has one healthy child.

First epileptic attack occurred three years ago, and the second after an interval of eighteen months. Since the second attack, has had seizures with increasing frequency: thirteen in the last twelve months. Last seizure occurred yesterday. The attacks have all been nocturnal, occurring at from one to five o'clock A.M., and characterized by severe spasm, biting of the tongue, and passing urine in the bed, and followed by heavy sleep. The next morning has headache.

Did not have treatment until after attacks became frequent.

This case is interesting as showing the real significance of a first epileptiform seizure in a non-syphilitic and non-uræmic adult. The patient had epilepsy just as much after the first attack as he did when the seizures recurred every two or three weeks, and the proper time for successful treatment would have been after the first attack.

CASE IX.—Mary L——, twenty-two years, seen October, 1880. When only three weeks old, had a series of convulsions in the course of one week, followed by cyanosis. Afterward was subject to "screaming spells," in which she threw her body forcibly backward.

From fourth to eighth year no attacks of any kind. When eight or nine years of age had attacks of unconsciousness, in which the eye rolled up, the appearance was statue-like, with a cataleptic state of the limbs. These attacks have occurred daily since; on some days she has had as many as ten or twenty seizures.

Menstruation occurred at thirteen years, but the attacks continued unchanged. Went to school at usual age, but study was abandoned in twelfth year, nominally because of "indigestion," but in reality because patient's mind was feeble; she was to a degree imbecile.

In the last fourteen months has had five attacks of grand-mal; the first in August, 1879, the last one about two weeks ago. In these severe attacks she

did not bite her tongue. Has had fewer attacks of petit-mal since these convulsions.

Patient states that she has no aura; as to frequency of petit-mal, she thinks that she may have had as many as one hundred "spells" in one day.

The existence of neuroses in the family is denied. The cause of the second series of epileptic phenomena (from eighth year) appears to have been masturbation, which was practised from the sixth or seventh year until some time after attacks set in. Positively denies self-abuse in the last few years.

This young woman's father was a physician, recently deceased, but the epileptic nature of the disease was not recognized until the convulsive attacks of 1879–80.

Case X.—Mrs. C. A. R., aged twenty-eight years; seen December, 1878. Was a robust, healthy girl; menstruated in her thirteenth year. In the same year had a very severe attack of typhoid fever, followed by great debility of body and mind. Sexual feeling, which had already been experienced by the patient, disappeared and has never returned. Menses continued nearly regular. At an uncertain time (not long) after the fever, began to have petit-mal of the faintest kind; a mere momentary blurring or loss of consciousness, at frequent, but irregular intervals.

Married at eighteen, and has borne children. Petit-mal has continued occasionally. At about twenty-one had a first convulsion one morning after rising; she frothed at the mouth and bit her tongue. In about two months had a second equally severe attack, and a third one thirteen months later. Then was given bromide and valerian, but irregularly. Four years passed without any convulsions, but she continued having petit-mal at intervals of a few days to three weeks in length.

In 1876 was in Europe travelling, not eating much and using stimulants; had an attack in the summer (grand-mal), and three since. The last one occurred six weeks ago, in the night. Petit-mal occasionally.

In reality this patient was epileptic some twelve years without having a proper diagnosis and treatment.

Case XI.—Lizzie B., aged twenty-seven years; seen July, 1880. Since the age of eleven or twelve years has had peculiar attacks, consisting of a sensation of something starting in the epigastrium and rolling up to the throat, lasting only a few seconds, not accompanied by tears or other emotional disturbance. Thinks that her consciousness is not lost; calls for hartshorn. At first these attacks occurred once in three or six months; in the last year has had them every two or three weeks. The true nature of these attacks was ignored, though patient was under the constant supervision of a good physician.

Menstruation established at fourteen years (long after first petit-mal); irregular and with pain.

In March, 1880, patient had a regular convulsion, and a slighter one a few days ago. These attacks are described by patient's sister; she herself thinks that they were "long faints." [This shows how much reliance is to be placed on her other statement that she preserves her consciousness in the slighter seizures.]

It was only after the spasm in March that a bromide treatment was instituted. Patient went home in October.

Since January, 1881, quite a number of attacks of grand-mal.

Case XII.—Dr. ——'s son, aged twenty-two years, November, 1880. Patient not seen; statement made by the father.

From twelfth to sixteenth years had occasional "frightened spells" or "faint spells." No details.

In sixteenth year first recognized epileptic attacks; usually nocturnal; grand-mal at intervals of one or two months. Four attacks in the last four months. In attack spasm begins on the left side of the body, and is most severe on that side; the tongue is bitten, and there is frothing at the mouth.

In 1878–79 had no grand-mal (interval of nearly two years).

At age of six or seven years fell on the ice, striking on his forehead; lost consciousness and vomited.

Masturbation begun in eighth year, probably before petit-mal, which it appears began before the

twelfth year, as stated in commencement of the history.

The father, though a practising physician, paid no special attention to the petit-mal, and attributed the first convulsions to late suppers and gastric irritation in general.

The foregoing cases indicate that the error usually committed in judging of the true nature of first epileptic seizures is in considering them to be sympathetic convulsions, due to remediable causes—in other words, eclamptic attacks.

This capital diagnostic error is founded upon two erroneous conceptions, in my opinion :

1. A physiological misconception. In the first two years of life there is great convulsibility; the spinal axis is excessively irritable, and many causes, local, diathetic, and thermal, may produce convulsions. Thus, pneumonia, exanthemata, infantile spinal paralysis, intestinal worms, gastric irritation, gingivitis, sexual irritation, etc., may cause convulsive attacks, which are usually called eclamptic. If the cause be removed, such attacks do not recur. In the third and fourth years of life, more or less rapidly according to the constitution of the child, this mobile state of the spinal axis diminishes, the inhibitory cerebral influence is more and more shown, and the tendency to reflex spasmodic manifestations almost disappears.

The misconception lies in admitting, beyond the truly infantile age (three to four years), a liability to symptomatic or eclamptic convulsions.

There are exceptions, of course—some few children, and even adults (especially females), show convulsibility; but I believe that it may be stated, as a law most useful in estimating the significance of a first fit, that after the third or fourth years eclamptic attacks (except from uræmia) are excessively rare. A first rule for the study of convulsions then is, that convulsibility diminishes rapidly after the third year.

2. An etiological misconception, consisting in overestimating the exciting powers of local, internal, and peripheral causes. The doctrine of reflex neuroses, reflex neuralgia, reflex spasms, reflex paralyses, and

of reflex psychoses, has fallen from the very high standing it acquired, mainly under the influence of Brown-Séquard, some fifteen or twenty years ago. Reflex diseases of all kinds are now rarely reported by reliable observers, and more especially is this true of paralysis. That there are reflex nervous diseases I recognize, but I claim that they are not by any means as common as is usually believed.

More especially would I maintain this with respect to convulsions occurring after the third year of life. Cases of convulsions, or epilepsy, in individuals above three years of age, due to cuts, blows, worms, adherent prepuce, etc., abound in older medical writings, books, and journals; but in the last ten years physicians have become much more guarded, and such cases, when reported, are considered very interesting because of their rarity. Leaving out injuries about the head, I am not sure that I have met with such a case.

I would suggest, as a second safe rule in studying first convulsions, that, after the third year of life, local irritations, internal or external, are not likely to cause convulsions without the pre-existence of a morbid state of the nervous centres, inherited or acquired.

The terms eclamptic and epileptic as applied to convulsions accompanied by loss of consciousness, have been the source of great confusion. The words are often used as if they designated different symptom-groups, whereas, in reality, as sanctioned by observations and by the best authorities in our art, they mean the same symptom-group, occurring under different conditions.

I might support this statement by numerous citations, and by a minute description of a variety of attacks of each kind; but my time is short, and I will content myself with giving the opinion of a few authorities.

In the first place, Professor Trousseau says: *

"I have often known epilepsy and eclampsia to be confounded one with another, and I have also said that this confusion is almost inevitable, because,

* Clinique Médicale de l'Hôtel-Dieu de Paris. Seconde édition, vol. i., p. 88. Paris, 1865.

if we study only the convulsive manifestations of these two affections, they are indistinguishable.

"If you observe a woman attacked with eclampsia in the eighth or ninth month of pregnancy, or during confinement, or a child who is convulsed, either at the beginning of an eruptive fever or during dentition, however you may be on your guard—however careful you may be in your observations, you cannot make out any [symptomatic] differences between these attacks and the convulsive form of morbus caducus."

Dr. Day, in the recent edition of his excellent work on diseases of children,* quotes with approval Trousseau's statement as to the similarity of eclamptic and epileptic attacks—the latter being the former repeated in a series—and adds, when speaking of eclamptic attacks:

"In many respects they (the convulsions) resemble epilepsy, from which, indeed, they cannot invariably be distinguished."

An encyclopedic treatise on diseases of children is being issued in parts, in Germany, and the opinions of its numerous authors, all men of high standing, will be received with respect.†

Dr. Otto Soltmann, of Breslau, in treating of epilepsy, says (p. 103):

"The eclamptic attack cannot be distinguished by its symptoms from the epileptic attack."

Nothnagel, an authority upon the subject of epilepsy, writes as follows of eclampsia, in Ziemssen's Cyclopædia:‡

"What is there now remaining of what was formerly recognized as eclampsia? Are we altogether justified in still retaining the name? We believe so, and are of opinion that the title of eclampsia should be reserved as the name of an *independent affection*, which, it is true, can at present be defined only by

* The Diseases of Children, p. 607, American edition. Philadelphia 1881.

† Handbuch der Kinderkrankheiten; Herausgegeben von Dr. C. Gerhardt. Bd. v., Abth. I. 1ste Hälfte: Krankheiten des Nervensystems. Tübingen, 1879–80.

‡ Cyclopædia of the Practice of Medicine. Edited by Prof. H. von Ziemssen. American edition. Article on Eclampsia, vol. xiv., pp. 301–2.

its clinical symptoms. We propose that the designation eclampsia should be made use of for those cases of epileptiform spasms which—independently of positive organic diseases—present themselves as an independent acute malady, and in which, so far as our present knowledge allows us to judge, the same processes arise, generally in the way of reflex excitement, and the same mechanism in the establishment of the paroxysms comes into play, as in the epileptic seizure itself. In this way, as we see, *the designation of eclampsia as an acute epilepsy finds greater authorization* [the italics are my own]; at the same time it is distinguished from true epilepsy by the lack of a persistent central change, which latter impresses upon epilepsy the character of a chronic condition. In the case of eclampsia, where this chronic change is absent, the manifestations, the seizures disappear with the removal of the exciting irritation."

We may sum up these statements of high authorities by saying that eclamptic and epileptic attacks are similar in character and practically indistinguishable.

This being admitted as being true of the *symptoms*, we yet have the two *affections*, eclampsia and epilepsy, to differentiate; and it is this differentiation or differential diagnosis which is all-important for the welfare of our patient. It is not so very serious to consider eclampsia as epilepsy for a few months; but the converse mistake—the one illustrated by the cases I have read, the mistake which I believe is common, is in one sense fatal to the patient. The non-recognition of epilepsy allows of recurrence of paroxysms and the establishment of the epileptic habit.

Upon what grounds can a reasonably accurate diagnosis be made? I believe this can generally be done by attention to the physiological law of convulsibility, and to the relatively small importance of local irritations, internal and external, after the third year of life, as a cause of eclampsia. These two points have already been referred to at some length. A third rule which must be borne in mind is that at almost any period of life uræmia

may cause eclampsia. This is more especially true of young subjects who have just passed through scarlatina with nephritis, or who have had symptoms of renal disease from any cause; and also of adults—males between thirty-five and fifty, who are liable to contraction of the kidneys.

A fourth diagnostic rule is that, in adults particularly, syphilis may cause eclampsia (*i.e.*, acute, curable epilepsy).

Plumbism and alcoholism sometimes cause eclampsia, but probably in most cases by producing renal changes and uræmia.

To apply these principles to practice, let us suppose cases of first convulsions with loss of consciousness, occurring in subjects of various ages.

1. Convulsive attacks in young children under three years.

If we can exclude injury to the head, gross organic disease of the brain, and microcephaly from premature closure of the fontanelles, the attack is probably eclamptic. This probability is increased to almost a certainty if we can accurately determine the existence of sufficient systemic or local causes for the attack.

Upon this question of sufficiency of the cause, much might be said. Often the physician is satisfied with merely determining the coincidence of a fit with a local irritation, or a supposed local irritation. Soltmann* is especially emphatic in his advice to judge these coexistent conditions carefully before pronouncing them to be causes, and the attacks to be merely eclamptic.

The occurrence of a single fit enhances the probability of its being the first seizure of epilepsy.

The occurrence of repeated attacks in the course of an hour or two makes it probable that the convulsions are caused by fever, by gingival, gastric, or intestinal irritation, or perhaps by some peripheral cause.

2. Convulsions in young persons from three to fifteen years of age.

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* L. c., pp. 49-54.

These are quite certainly epileptic, if we can exclude renal disease. The occurrence of attacks of an eclamptic nature (*i.e.*, ephemeral and curable) in such subjects from intestinal, or gastric, or sexual irritation, is exceedingly rare, and the mistake—the terrible mistake of assuming such to be the pathology of convulsions, is frequently made, even by experienced physicians.

I would repeat, and the foregoing cases bear me out, that convulsions from worms, from indigestion, from lithæmia or oxaluria, in youth are exceedingly rare, and that in the treatment of such a case the patient should be given the benefit of the doubt and be put upon a rigid anti-epileptic treatment by means of bromides, while the treatment for the supposed local or diathetic cause is being carried out.

3. Convulsions in adolescents and adults.

These are to be judged by the same general rules as No. 2, with the addition that two morbid conditions should be carefully searched for, especially when the first convulsion occurs after twenty.

a. Syphilis. This may be acquired at almost any age, but especially after sixteen or eighteen years. Nothing in the social standing of the patient should deter the physician from inquiring delicately, yet deeply, into this question.

b. Chronic interstitial nephritis, more particularly in subjects of forty years and upward. The presence of a hard pulse, of over-action and hypertrophy of the heart, the passage of an excessive amount of urine of low specific gravity, sometimes containing albumen (never much), and a few hyaline or granular casts—these symptoms go to justify the diagnosis of contracted kidneys, consequent chronic uræmia, and the occurrence of eclamptic attacks.

If we exclude these two pathological conditions, a convulsion in an adult, especially if a single fit, is quite certainly epileptic, and will be followed by others, after a lapse of time which may vary from a few days to more than a year. Of course the existence of a long interval of health after one epileptic attack in no wise justifies a physician in pronouncing the disease not to be epilepsy, as is shown by

some of the cases I have read, and by numerous others which I might cite.

To sum up the early diagnosis of convulsions :

1. After the third year such attacks are very probably epileptic. The possibility of uræmia and of syphilis should be borne in mind, and a careful investigation be made as to their existence.

2. Under the third year the attack may be eclamptic—probably is, but its causes should be carefully judged.

3. In many cases under three years it is well to give a moderate amount of bromide of potassium (or sodium) with regularity for several months after a convulsion, that is to say, in such cases as do not present an evident, indisputable pathological condition sufficient to cause eclampsia.

4. In all cases above three years the bromide treatment should be at once instituted and kept up for many months.

This will not interfere with the treatment by appropriate remedies and by hygiene of gastric or intestinal indigestion, of worms, of sexual irritation, of uræmia, and of syphilis.

Besides bromides, a variety of treatment is demanded by different forms of epilepsy, according to the pathological condition ; but the consideration of these indications is foreign to this paper, whose main object is to encourage the prompt and proper treatment of epilepsy at the earliest possible moment, viz., in most cases after the first attack.

I am confident that, if this were done, the prognosis of convulsive epilepsy would be greatly changed for the better.

I now pass to the consideration of the diagnosis of petit-mal, consisting of epileptic vertigo (so called), and of imperfect or aborted spasmodic seizures.

In this category I do not include the localized or hemiplegic epileptic spasms, which I have treated of in a former paper.

Petit-mal, or epileptic vertigo is often allowed to pass for vertigo caused by indigestion. In my experience, physicians are very loath to call these slight attacks by the terrible name of epilepsy, and

so delude themselves and their patients until the recurrence of a convulsive attack settles the question.

Besides, I find that, even when the attacks are recognized as epileptic, a most unfortunate statement is made that these are slight and manageable attacks, whereas the truth is that petit-mal is much more intractable than grand-mal, and often leads to more evident mental deterioration.

The correct diagnosis of petit-mal is feasible, provided a good description of the seizures be had.

From vertigo it is distinguished by :

1. The subjective phenomena. In vertigo there occurs a sensation as if the patient himself or objects about him were whirling around ; in petit-mal there is no such feeling, but a sensation of confusion, or of something rising from the throat or epigastrium to the head. In some cases there are no sensations in the head beyond the consciousness that something is wrong for a moment.

The sensations of petit-mal are, moreover, usually sudden, or even flash-like, whereas in vertigo, cardiac syncope, and some hysterical attacks, there elapses quite a time in which the attack is growing. This suddenness of onset is very characteristic of minor epilepsy.

2. By objective phenomena. In faints and in some hysterical states the patient is limp from the start, and in other hysterical attacks there is spasm lasting many minutes. In petit-mal there is nearly always spasm, but not as in grand-mal. It usually expresses itself by a momentary rigidity of the whole body, with staring eyes and wide pupils. To express it otherwise, there is for an instant an unnatural immobility—the patient is, as it were, petrified for a few seconds. The friends of patients will usually accept the suggestion that the patient is statue-like in the attack.

It is to be borne in mind that in some cases the patient keeps his equilibrium, or even continues to walk. Nearly always, however, the action which the patient was doing at the moment (eating, talking, walking) is impeded or interrupted, to be resumed naturally after a few moments.

Some of these attacks of petit-mal are literally like a flash—just a moment's obscuration of consciousness. The consciousness is wholly lost in the various forms of petit-mal, though many patients will claim the contrary. The truth is usually easy to learn from the patient, or friends of the patient, and is at once evident if you happen to witness a paroxysm. I am in the habit of not relying upon an epileptic's statement that he is conscious during an attack, without sufficient corroborative testimony.

The dilatation of the pupils and their immobility, and the open state of the eyes, are capital symptoms.

In syncope and hysteria the eyes are closed and the muscles limber. The eyes in hysterical "faints" present an almost pathognomonic appearance; they are rather tightly closed, and present vibrations or quivering motions due to the prolonged effort at closure. In neither of these conditions is the pupil fixed and widely dilated, as in epilepsy; this is a symptom which cannot be imitated.

Vertigo from gastric disorder is characterized by a sense of whirling in the head, and often a sensation as if the ground were opening in front of the patient, or falling away from before him, with impending precipitation. The observer notices no dilatation of the pupils, or staring, or momentary stiffness of body; the patient can speak at any time. In severe cases the vertigo is very frequent and is produced by the least motion.

I cannot enter fully into a description, for diagnostic purposes, of each and every variety of petit-mal. This would take a long time.

Allow me to refer to the intermediate attacks, in which there is some jerking of one of the limbs, or in which the patient says or does something odd. In some cases the patient will rise suddenly from a chair, walk rapidly about, muttering something. In other cases the patient will lie back in his chair with the epileptic facies, and jerk both arms or the limbs on one side of the body for a few moments. In other cases, the patient being out of doors walking in the street, loses himself for a few blocks, and is surprised at his change of location. In other

cases there may be incoherent or semi-coherent talking. Other patients simply stare and make swallowing movements, with or without drewling. Other patients fumble and fuss about with their hands, while staring and unconscious.

The unconsciousness and the attendant pupillary phenomena are the chief diagnostic symptoms in these cases; but a very important element in the differential diagnosis between these attacks and hysterical ones is that the latter present variations each time, whereas the mixed epileptic seizure is almost a stereotyped performance, one or two sets of movements being done by the unconscious subject.

Still other cases of non-spasmodic epilepsy occur in the shape of periodic or paroxysmal attacks of mania or melancholia. In some of these cases the careful observer finds that a nocturnal fit or an unobserved diurnal paroxysm ushers in the psychosis; but in other cases the mental disorder appears in a periodic epileptoid manner, and convulsions or petit-mal make their appearance later on.

I have already given it as my opinion, or rather as the summary of my experience, that petit-mal is often ignored for years, and is usually looked upon as a trivial affection.

It is my present purpose to urge the early recognition and careful treatment of this seemingly insignificant symptom. It appears to parents, and too often to physicians, as infinitely less serious than grand-mal or "fits;" yet I can assure you that the contrary is true.

Petit-mal, especially the flash-like form, is exceedingly rebellious to treatment. I have now several little patients who continue to have several "turns" a day, despite the use of as much bromide, etc., as their systems will bear. I have repeatedly had to produce severe bromism in order to barely control these minor forms of epilepsy, and any reduction of the medicine to a safer dose was followed by a return of symptoms. In taking charge of a patient who has such petit-mal I always explain to the parents or relatives the difficulty of the task they have brought to me. In my experience, spasmodic attacks—even

the most severe fits—can nearly always be controlled by a proper dosing of the bromides—they may also be suspended for months and years; but we have little control of the minor manifestations of the disease.

Still, in all forms of epilepsy the date of its recognition as epilepsy is an all-important factor in prognosis. By repeated seizures a condition of the nervous system (epileptic centre?) becomes established, which we designate as the epileptic habit, a condition which explains the remarkable fact that in some cases of symptomatic or reflex epilepsy the attacks continue after removal by surgical means of the morbid focus whence the attacks seemed to be produced.

By instituting treatment very early, if possible after the first or second attack, we eliminate this factor, and the chances of cure are greatly increased.